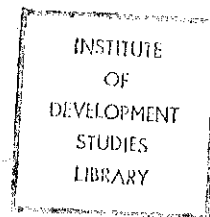


POLICY ALTERNATIVES FOR LIVESTOCK DEVELOPMENT IN MONGOLIA (PALD)

A Research and Training Project



September 1991

Working Paper No. 3

**Liberalisation of the Mongolian
Pastoral Livestock Economy:
Policy Issues and Options**

Conclusions of field research and a policy workshop

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Summary of main conclusions

This report describes the conclusions of field research aimed at clarifying and ranking policy options for extensive livestock development in Mongolia. The chapters of the report were circulated as drafts and discussed at a policy workshop of senior decision makers held in Ulaanbaatar in September 1991. The report of the workshop forms the last chapter of this report.

Chapter 1 introduces the research and training project.

Chapter 2 deals with overall policy options for improved livestock productivity. The fundamental policy choice is between (i) encouraging a rapid increase in the total number of animals, at present levels of productivity, or (ii) seeking to improve individual animal productivity without great increases in the national herd. Given existing seasonal fodder and labour constraints, the second policy option - an increase in individual animal productivity on a herd of approximately the existing size - is preferred, accompanied by efforts to reduce existing fodder and labour constraints. Measures to achieve this include: improved fodder supplies, encouraging local cooperative labour organisation, policies to encourage flexible labour markets, the introduction of labour saving technology, and upgrading livestock management to the level of best local practice.

Chapter 3 considers land tenure and access to natural resources. The preferred policy choice on land tenure is a combination of statutory support for customary tenure arrangements and renewable leases for groups of herders, probably of the order of 20-30 year rolling leases with five yearly reviews. *Negdels* would lease their land from government, and negotiate sub-leases with groups of herders at brigade or similar level. Such leases should include fixed assets such as winter shelters and wells, and should be flexible enough to allow reciprocal access to neighbouring groups in cases of great need. Lease fees based on the assessed value of the land would be levied.

Land tenure structures need to be combined with measures to protect and upgrade key, high quality, resource areas, and to encourage private sector fodder production. A switch from wheat to fodder production on a portion of the arable land should be considered, and rainwater harvesting for fodder should be developed in drier regions. A state fodder reserve would be a useful transition measure.

Chapter 4 deals with poverty, risk and food security. A key factor in this respect is the distribution of risk. At present, *negdels* and the state carry most of the risk, but with privatisation this risk will be transferred to herders. The result could be stagnation or even a reduction in livestock productivity as herders switch to lower risk/lower productivity strategies. A serious potential threat to human food security nevertheless remains.

The main policy objective in this respect in the extensive herding sector should be to encourage growth in livestock productivity, accompanied by guarantees of food security and a safety net against destitution for herders. A key part of this would be the creation of state, cooperative and private sector mechanisms to handle risk. These could include, during the transitional period, the maintenance of some level of *negdel* animal ownership as a risk-avoidance mechanism for individual poor herders, as well as specific measures to reduce the risk of *negdel* failure, and the creation of new or improved financial institutions including

insurance and a *negdel* bank. The state should extend its direct investments in infrastructure and veterinary services. Livestock taxation should be progressive above a basic household herd size. Food security planning and the adoption of a food security policy are important priorities.

Chapter 5 considers the sequence of reforms needed to achieve successful liberalisation in the extensive livestock sector. Present production is probably near the maximum given existing constraints. Liberalisation of markets will remove price disincentives, but other input constraints will remain or even increase. The danger is that the supply of animals and animal products will be unresponsive to price increases because of these remaining constraints.

The key components and sequence of reforms to avoid this situation are: (i) that *negdels* should retain at least 20 per cent of animals in collective ownership, managed on long leases by herders, with the risk of loss covered by the *negdel*; (ii) that new risk management institutions should be developed simultaneously with the privatisation of animals and the liberalisation of markets envisaged for 1992; (iii) that further private sector development of fodder production enterprises should be pursued as a matter of urgency, and a state fodder bank created as an interim measure; (iv) that the supply of other key inputs, especially additional labour and credit, should be facilitated as soon as possible.

Grazing land tenure reform is a less immediately urgent matter, although no less important in the long run. A first step would be for government to negotiate long term leases with *negdels* for their land.

It is proposed that a transitional period of five years (1992-97) be allowed, and that progress in individual reforms - especially privatising animal ownership - should be made dependent on progress in other key reforms, especially risk management and fodder supply, in order that reforms occur in the correct sequence.

Glossary of Mongolian terms

<i>aimag</i>	province
<i>deel</i>	national costume
<i>ger</i>	traditional felt tent in which most herders live
<i>khainag</i>	yak-cow crossbreed
<i>khesag</i>	team
<i>negdel</i>	agricultural (livestock) cooperative
<i>nuur</i>	lake
<i>otor</i>	rapid moving of animals between pasture areas to put on weight in summer
<i>sum, sumun</i>	administrative district
<i>suur, suuri</i>	herders' camp(s), the basic unit of production
<i>tasag</i>	seasonal team for dairying (in summer)
<i>uul</i>	mountain
<i>xot ail</i>	traditional unit of social and economic organisation at local level

Plant species names

<i>borshawug</i>	a small Gobi shrub
<i>ders</i>	<u>Achnaterum splendens</u>
<i>moring shariij</i>	long Gobi grass species
<i>mukhoo owus</i>	vegetation community of short grasses
<i>saxaul</i>	<u>Haloxylon ammodendron</u>
<i>zags</i>	<u>Phragmites communis</u> (a reed grass)

Exchange rate

Prior to June 1991 US \$1.00 = Tugrig 7.10

After June 1991 US \$1.00 = Tugrig 40.00

1. INTRODUCTION

Policy Alternatives for Livestock Development (PALD) is a joint UK-Mongolia policy research and training project which aims to provide information and skills to facilitate the current economic liberalisation of Mongolia's pastoral livestock economy. PALD is sponsored by the Ministry of Agriculture, MPR, with the cooperation of the Supreme Council of Agricultural Cooperatives and the Council of Agricultural Science of the Academy of Sciences. These are the institutions responsible for deciding policy relating to the organisation of animal husbandry. The three cooperating research institutions carrying out the project are the Research Institute of Animal Husbandry (RIAH), the Institute of Agricultural Economics (IAE), and the Institute of Development Studies (IDS) at the University of Sussex, UK, which also provides the training inputs.

Mongolia is embarking on the liberalisation of agriculture as part of its overall programme of economic transformation. The major part of the agricultural sector is extensive livestock husbandry, organised principally through the agricultural cooperatives or *negdels*. The process of privatising the *negdels* is just beginning in September 1991, and will continue over the next two years.

Difficult policy choices will need to be made over this period to maintain the productivity of the rural economy, and to ensure food security and the minimum of social upheaval for Mongolia's urban as well as rural population. The importance of the rural sector cannot be overstated, both for industrial processing, exports and employment, as well as for national food supply. There are no countries in the world in a similar situation from which Mongolia can learn directly. Mongolia will have to devise and adopt policies specially adapted to its own unique conditions, building on traditions which have evolved over centuries.

To facilitate this process of policy formulation, however, and the adaptation of ideas tried and tested in other countries, there are new ways that Mongolia can learn. The most important of these is to strengthen the link between scientific research and national policy making. The PALD Project aims specifically to build up the capacity of Mongolian natural and social science research institutions to carry out applied research leading to the identification of appropriate policy alternatives and their likely implications in the area of livestock development.

PALD will achieve this objective by means of three kinds of activity:

- (i) *training*: Mongolian researchers will be trained both in Mongolia and in the UK in appropriate methods and ideas for applied policy research in the area of livestock development;
- (ii) *research*: extensive field research will be carried out in different ecological zones of Mongolia to provide first-hand information on which to base policy suggestions, and to monitor the impacts of policy reforms already adopted;
- (iii) *policy workshops*: regular policy workshops will be held with senior policy makers in Mongolia's agricultural sector to inform them of work in progress and provide an opportunity for open discussion of policy alternatives.

The PALD project will concentrate on research themes considered to be of major priority for the policy choices that need to be made in Mongolia at the present time. The main issues include: land tenure policy, access to forage resources, seasonal fodder and labour constraints, risk and risk management, poverty, food security, and the overall sequencing of economic reforms.

The three year project focuses mainly on the *negdels*, since they make up the largest part of the rural economy, although reference will also be made to other agricultural enterprises and economic sectors.

The PALD project began operational activities in July 1991. An initial training course was held for the Mongolian members of the joint research team, drawn from RIAH and IAE. This provided (i) a basic grounding in the research themes, and (ii) training in participatory field research methods, including those of 'rapid rural appraisal'¹. The training then continued in the field for consolidation through 'learning by doing'. The full team totalled eight members² and carried out research on the major themes in two *aimags*: Arhangai and Dornogobi, representing the forest/mountain steppe and Gobi zones respectively.

Fieldwork took place in four field visits during July-August 1991, lasting a total of five weeks. The fieldwork was concentrated at the local (household and brigade) level, with the research team living in the brigade areas and staying with herding families. Detailed discussions with individual herders were supplemented with interviews with *negdel*, district, and province chiefs and administrators, to answer research questions arising at this level. The data and research findings are available in the form of a detailed report.³

A one-day policy workshop was hosted by the Supreme Council of Agricultural Cooperatives on 27 September, 1991, attended by senior policy makers in Mongolia's agricultural sector, at which the main research findings and policy suggestions arising from PALD work to date were presented. Three draft papers were presented by the PALD project at this workshop, covering the following themes: (i) improving livestock productivity; (ii) land tenure and access to resources; and (iii) poverty, risk and food security. Chapters 2, 3 and 4 of this report are based on these draft papers; Chapter 6 is a report of the policy workshop.

One of the principal recommendations made by participants at the policy workshop was that in its future work PALD should aim towards making concrete proposals for policy implementation. As an initial step in response to this recommendation, Chapter 5 of this report, 'Sequencing economic reforms', takes further the policy conclusions of Chapters 2, 3 and 4, and makes more explicit the need to sequence policy reforms correctly. Concrete proposals are made to this effect.

¹ Robin Mearns (1991), 'A Training Course in RRA Field Research Methods for the Analysis of the Mongolian Herding Economy', PALD Working Paper No.1.

² The full research team is listed in PALD Working Paper No.2.

³ Robin Mearns (1991), 'Transformation of a Pastoral Economy: a Local View from Arhangai and Dornogobi Provinces', PALD Working Paper No.2.

2. IMPROVING LIVESTOCK PRODUCTIVITY

Introduction

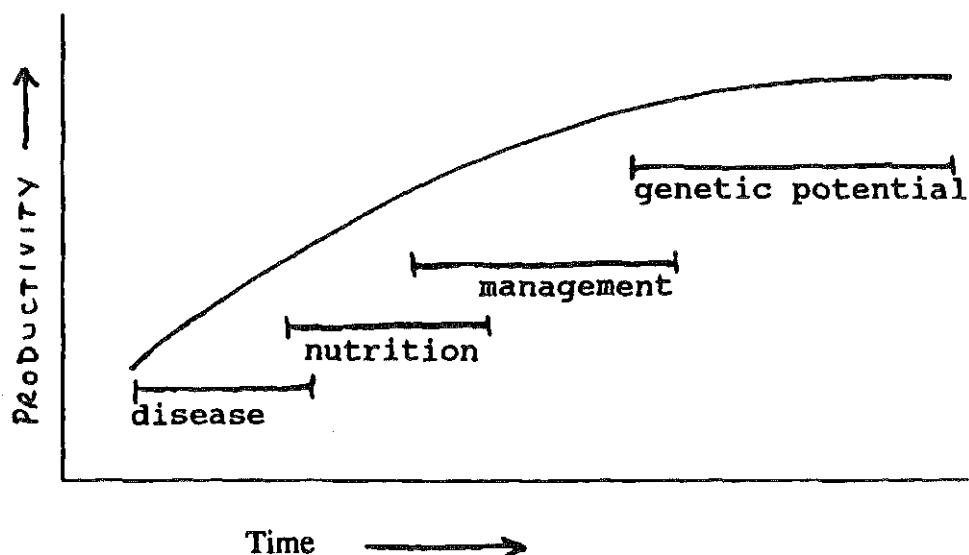
An important question in national policy for livestock development is how best to improve production and productivity. The choice is broadly between trying to increase the total number of animals, and trying to increase the productivity of individual animals. Although these two courses of action can to some extent overlap, they represent in principle different policy choices.

Constraints to growth in livestock production

The simplest way to consider this question is to identify the main constraints to livestock production under Mongolian conditions, and to decide policies to reduce or eliminate them.

Constraints in livestock production are not all of equal importance, and do not all occur at the same time. Instead, at any particular stage in livestock development, one particular type of constraint will tend to dominate the others; if this is removed, another type of constraint will take its place. So livestock development policies have to deal with a sequence of constraints.

A very general sequence of constraints in extensive animal husbandry is shown in the diagram below. The most fundamental constraint is animal disease. When this is controlled to an acceptably low level, it is replaced by animal nutrition, which in turn gives way to livestock management. Genetic capability is generally the last major constraint, not worth investing in to a major degree until the others have been brought under control.



Under present Mongolian conditions, livestock disease (probably naturally quite low because of ecological and climatic factors) is well under control, although veterinary efforts should not be reduced. The main constraints at present are probably a mixture of livestock nutrition (perhaps the most important) and management. Genetic potential is not yet a major problem in pastoral animal husbandry (although it may be in intensive animal husbandry). This does not mean that genetic selection by herders from within local breeds should not be encouraged; only that genetic potential should not be a major investment priority in the extensive pastoral economy at this stage.

1. *Animal nutrition*

Seasonal fodder shortages are a key constraint on livestock production and may be one important reason for the stagnation of livestock productivity since the 1960s. Fodder constraints and policy options are dealt with in chapter 3 of this report, 'Land Tenure and access to resources'. The use of simple low cost rainwater harvesting techniques, especially in the drier areas, is a promising technical solution to part of the fodder problem. It may also be more economically efficient to switch part of the arable land at present growing wheat to fodder instead.

2. *Labour*

Labour shortages are a key present management constraint. There have been many experiments with labour organisation in the Mongolian pastoral economy, especially in extreme specialisation of tasks, although much of this has now been abandoned. It is likely that labour shortages were an important constraint on herding in the period 1960-80, following very rapid urbanisation in the 1950s, although the situation has improved since 1980. One important function of the *negdels* in recent years has been to organise supplementary labour for brigades and herders' camps (*suuri*, the basic unit of production) at key moments in the year, particularly during especially harsh winter-spring periods. The replacement of this by a privatised or full cost-recovery system is one of the major problems currently facing herders.

PALD project fieldwork suggests that the overall labour situation in the pastoral economy is not particularly difficult at the moment, particularly since in many areas there is a small but steady migration of town people back to the *negdels* in order to benefit from privatisation and to escape urban unemployment. For example, in Ih Tamir district, Arhangai, about 120 families rejoined the *negdel* during 1990, representing some 20 per cent of the then total number of families in the *negdel*. A major reason for their return to herding was to establish their entitlement to a share in the *negdel's* assets in anticipation of privatisation. A larger number had applied to join the *negdel*, but were unable to satisfy the *negdel* chairman of their family connection with that *negdel*.

However, labour constraints are likely to remain severe at key moments in the annual production cycle, especially at the moment of most animal births in February and March, and for women at the time of maximum milking in the summer. The summer is a time of labour shortage at least in the Gobi, owing to the twice-daily watering of livestock and the demands of frequent nomadic moves during the summer *otor*.⁴ This is exacerbated by species-diversification, since large and small stock need to be herded separately. Summer is also a period of potential labour shortage in areas of higher ecological potential, eg. during haymaking. The repair and cleaning out of winter shelters in the autumn

⁴ Moving of animals relatively rapidly during the summer from one pasture area to the next to put on weight.

requires considerable work, particularly in areas where shelters are constructed of stone rather than wood, as in much of Dornogobi province. Winter in general is a time of much reduced labour demand in animal husbandry.

Field research revealed that richer and poorer households experience labour constraints differently. This was most clear in the Gobi zone, where labour constraints are in general more severe for all households. In Tsagan Hutul brigade of Erdene district, Dornogobi, a number of families had recently withdrawn boys from school to assist with herding. They were in fact among the richer households, which own more animals and therefore have more need of additional labour. Poorer families were larger on average than richer families, but had higher ratios of dependents to workers (around 0.5 compared with 0.33 for richer families). It is likely that poorer households - generally with a younger age structure - would be less able to benefit from a potential increase in livestock numbers following privatisation, owing to a stronger labour constraint.

Fieldwork also suggests that with the decline in *negdel* arrangements to supplement household and *suur* labour, older forms of labour cooperation are re-emerging (particularly the *xot ail* type of cooperative unit of several households, which is seasonally variable in composition). For example, one group of three camps in Hotont district, Arhangai, have recently begun to form a *xot ail* during certain periods of the year, and explained the advantages of labour cooperation in their particular case. The herders felt they were previously allocated too many animals by the *negdel*. They welcomed the move to leasing *negdel* animals, and with their now more diverse if slightly smaller overall herd, they pool their family labour for herding and communal tasks including shearing wool and clipping hair, moving camp, and haymaking. The spontaneous emergence of such groups represents a genuine local form of cooperation to solve specific problems.

Policy options and implications

As stated in the introduction, one basic policy choice to be made in the search for improved animal husbandry is between (i) encouraging a rapid increase in the total number of animals, at present levels of productivity, or (ii) seeking to increase individual animal productivity without great increases in the national herd.

Overall, the total quantity of grazing available is not likely to be a constraint for the time being. Winter-spring fodder and labour at critical moments in the year, especially the spring and summer, are likely to remain the main constraints. For this reason, policy option (ii) - seeking an increase in individual animal productivity on a herd of approximately the existing size - is probably the best one to choose, accompanied by efforts to reduce existing fodder and labour constraints. Policy option (i) - increasing the size of the national herd - would simply exacerbate existing constraints and would be likely to reduce existing levels of productivity.

As outlined in chapter 4, 'Poverty, risk and food security', the recent widespread adoption of lease agreements for *negdel* animals, as an intermediate step to privatisation, is leading households to diversify the species composition of their *negdel* as well as their private herds, as a measure to reduce risk. This trend is likely anyway to reduce the growth potential of the national herd, since the labour requirements of a diversified household herd are greater than those of a more specialised one. Moreover, obligations to the *negdel* through the state procurement order have tended to be at or near the maximum production potential of the *suur* unit, and most herders welcome the opportunity even to reduce the total number of animals they lease from the *negdel*, as well as to

diversify their herd. This existing trend is a further reason for choosing the second policy option.

The choice of policy option (ii) suggests a particular set of measures to give effect to it:

- (a) *Improved fodder supplies.* Proposals on this are made in chapter 3.
- (b) *Encouraging local cooperative labour.* Policies could be adopted to further encourage local level cooperation (eg. on the *xot ail* model) to meet peak labour demands: for example, tax incentives or preferential leasing of machinery.
- (c) *Supplementary labour.* Policies could be adopted to encourage flexible labour markets at province and district levels so that supplementary labour is available when most needed in herding. Private sector enterprises such as construction could be given incentives to release labourers at such moments.
- (d) *Technological innovation.* Efforts could be made to identify potential low-level technical solutions to major labour bottlenecks in the pastoral annual cycle by mechanising key tasks.
- (e) *Upgrading livestock management to the level of best local practice.* Within the livestock economy, not all herders have the same level of traditional technical knowledge or skills. Improving their performance by teaching and extension using the best local herders could raise the average level of animal husbandry skills and knowledge significantly.

3. LAND TENURE AND ACCESS TO RESOURCES

Introduction

Animal husbandry in Mongolia is highly prone to risk of livestock mortality from climatic variation. The main hazards are high snowfall in the north and mountain areas, and drought in the southern Gobi zone. This climatic variation has two characteristics: (i) extreme seasonality; and (ii) unpredictability. The risk can be offset in two ways. One is to invest in fixed capital such as winter and spring shelters and stockyards, and wells; and to provide labour and fodder supplements during especially difficult periods. These policies have been adopted and implemented through the cooperatives over recent decades, with good results in reducing the risk to individual herders.

The second is to ensure (i) mobility of herders so as to permit access to different pastures (ecological resources) at different times; and (ii) to ensure sufficient flexibility in this system to allow herders access to other, 'key resources' during especially difficult periods. Key resources might include reserved grazing areas, depressions and wetlands in dry areas, soda licks, and places where snow rarely accumulates.

Both of these means to off-set risk also have implications for land tenure.

In addition to their role in managing risk, key resources - in this case patches of high quality pasture - are important at particular times of year for improving livestock productivity, for example for lactating dams during the spring breeding season, or during the summer *otor* for putting on weight.

Major issues and empirical data

Three major issues are considered here: mobility and flexibility; fodder constraints; and land tenure.

1. Mobility and flexibility

Mobility of herding families in a nomadic livestock production system is the most effective way to exploit or manage dryland environments, where ecological productivity is low. The drier the environment, the larger the area over which herders need to be able to move to ensure access to sufficient grazing for their animals. Such mobility has always been necessary in Mongolia - where annual rainfall totals are everywhere low - and especially so in the Gobi zone.

It is because of the risk of unpredictable climatic fluctuation in Mongolia that this system of mobility also needs to be flexible. Areas of open pasture are not uniform in quality, and not all areas are equally severely affected during bad weather conditions. Herders need to be able to move to particular areas of key resources during especially harsh winters or dry summers.

Fieldwork in Arhangai and Dornogobi confirmed the importance of such flexibility in nomadic moves during drought periods or unusually harsh winters. Officially, the members of a given *negdel* are supposed to use only those pastures lying within that district territory, but in practice moves frequently take place across administrative boundaries, at both district and province levels.

In Ih Tamir district, Arhangai, one brigade of 88 households (Hukh Nuur) divides into two seasonal teams (*tasag*) during the summer dairying period. One of these *tasag*, comprising 31 households, customarily lives next to Hanuy River in the neighbouring district of Chuluut. In this same area, during very hard winters, a group of 3-5 yak and *khainag*/cattle breeding families from Ghalut district in Bayanhongor province customarily use winter shelters in Hukh Nuur brigade territory. They come to join *suuri* in Hukh Nuur. Three of them are now related by marriage to families in Hukh Nuur, which has further strengthened the customary arrangement.

In the much drier Dornogobi province, the summer *otor* takes herders of large stock from the extremely dry south 400 or 500 kilometres northwards into the steppe grasslands of Hentii and Sukhbaatar provinces. There are currently fears in Dornogobi that agreements to allow *otor* across province boundaries will become more difficult to negotiate following privatisation.

Groups of herders in Tsagan Hutul brigade, Erdene district, Dornogobi, use different key resources for dry summers and for harsh winters. Warm, sheltered sand dunes in an area known as Burden Bulag are favoured for harsh winters such as 1986-87. Local spring water is supplemented daily by water trucked in by the *negdel*. A saxaul (*Haloxylon ammodendron*) grove nearby provides browse for camels.

During periods of drought, one group of herders customarily moves northwards over the present district boundary into Orgon district, to an area of upland Gobi-steppe pasture known as Argalin Uul. Although good pasture, this area used to be used only as a last resort owing to poor water supply, until wells were sunk in the mid-1970s. Following this capital investment however, the incidence of disputes between the neighbouring districts has increased, and families in Orgon district this year believe their neighbours from Erdene should be made to pay a fee for using what they increasingly regard as their land.

Both 'normal' and 'flexible response' moves tend to form a pattern that has evolved locally over a period of many years. Customary moves across administrative boundaries by individual families or groups or families to particular areas of key resources during difficult periods are supported by negotiations between their respective *negdels* or province administrations. These arrangements are usually reciprocal, at least in principle; payments are rarely made. But capital investments in land (eg. sinking wells) and the prospect of *negdel* privatisation are stretching customary means of settling disputes to their limit.

2. Fodder constraints

In Mongolia the most critical season for animal husbandry is winter-spring, when the availability of grazing on open pastures is at its lowest because grasses die back or are covered by snow. This is also the time of peak labour demand for herding families, when they are rearing young animals. Fodder supplements are usually necessary to ensure animal survival at this difficult time, and in especially harsh winters they become critical.

The fodder constraint is important for different reasons in different ecological zones. In northern, mountain and forest/mountain steppe zones, where low temperatures and high snowfall are most severe, a relatively high level of fodder use is normal to ensure animal survival. But fodder supplements are no less important in the Gobi zone where winters are much milder. This is because, although less fodder is needed on a year-to-year basis, very little fodder is

actually produced in the Gobi, so the gap between fodder demand and fodder production is just as significant in a bad year.

Changes already under way in the organisation of the cooperatives, together with the increase in the cost of transport, have led to a substantial increase in the cost of fodder to individual cooperatives and to individual members within cooperatives. The privatisation of agricultural enterprises will put fodder provision onto a full economic cost basis. Under a market-oriented system, resource allocation will no longer be decided at central state level, and the future of emergency fodder supplements from fodder-rich to fodder-scarce provinces is highly uncertain. These trends must increase pressures for a greater proportion of fodder needs to be met from local production.

Almost no hay or fodder is produced in Dornogobi, which of all the *provinces* has the lowest percentage share of its total land area under arable crops (0.1 per cent). Some 20,000 tonnes of hay are brought from Sukhbaatar province to Dornogobi by road each year, together with 500-600 tonnes of fodder crops. In the past, fodder supplies were transported by rail via the USSR from Selenge and Dornod provinces. In winter 1986-87 for example, snow covered the whole of Dornogobi, and by central state order the Selenge Board of Agriculture and Food Industry (BAFI) delivered to Dornogobi, free of charge, 1000t hay, 1000t mixed fodder, 1000t wheat stalks, and 3000 cubic metres of firewood, together with the loan of 28 tractors for two months for clearing pastures.

When winter feed supplements are necessary in Dornogobi, the total fodder bill for a *negdel* will typically come to 2-3 million tugriks. Three *negdels* in the province currently have bank reserves of no more than 1 million tugriks. It is feared that if this winter is a harsh one, many *negdels* will need to borrow substantially from the state to pay for fodder imports at rapidly increasing costs.

Until around 1959, the time the *negdel* was created in Erdene district, Dornogobi, it had been common practice for herders to make hay from *ders* (*Achnaterum splendens*) and the reed grass *zags* (*Phragmites communis*), a lot of which used to grow in moist depressions locally. Fodder was also handpicked, especially from the small shrub *borshawug*, and *moring sharilj* grass. Although not particularly good as fodder, this served the purpose in the absence of anything better. The *negdel* later began to import fodder from elsewhere and the local preparation of fodder lapsed. Now that the costs of fodder provision are rising sharply, both to individual herders as well as to *negdels*, many herders in Dornogobi (and in Arhangai) commented that they would prefer to revive their former practices of fodder production, however imperfect and limited they were.

Uncertainties also surround the future of capital-intensive wheat production given the rising costs and difficulties involved in importing fuel, machinery and spare parts. The real opportunity cost of wheat production deserves study. It might be a more efficient allocation of scarce resources to concentrate on decentralised fodder production, thereby saving on distribution costs, rather than on cereal self-sufficiency.

3. Land tenure

At present all land in Mongolia is owned by the state. Access to open pasture has always been free of charge. Under the new draft constitution however, provision is now made for private land ownership and land taxation. This could include open pasture as well as urban land, land under arable cropping, and land under other uses such as mining.

In agriculture, different systems of land tenure have different implications for production and for land management. A range of possible tenure options exist between state ownership at one extreme, and individual private freehold tenure on the other. The major objective should be to ensure the long term sustainability of productive forms of land management. Both over-exploitation and under-exploitation of pasture land have environmental implications which ultimately represent a constraint on sustainable livestock production. The dangers of overgrazing are clearer, but under-grazing too can lead to an ecological succession in the grassland vegetation community which reduces pasture productivity.

The privatisation of cooperatives is expected to lead to a shift from the present situation where in the cooperatives some 70 per cent of animals are collectively owned and over 20 per cent privately owned, to a situation where only 20 per cent of animals are cooperatively owned and 80 per cent are in private hands. Such a large increase in private livestock ownership on public land needs to be accompanied by a well-developed system of organisational control of pasture use and allocation if it is not to lead to a 'tragedy of the commons' scenario of over-exploitation. Whatever land tenure system is now devised, however, it must retain the capacity for flexibility.

If privatisation leads to the individual private ownership of fixed capital assets such as the winter and spring shelters that are already individually used in most areas, then this could be expected to lead to virtual private freehold tenure of winter and spring pastures. The problem with freehold tenure is that it 'freezes' access to land, making it very difficult to maintain the flexibility of access that is so important for the management of ecological risk. The danger is that control over key resources becomes concentrated in the hands of wealthier herders, at the expense of others who are denied access during times of need.

Much of the evidence from fieldwork in Arhangai and Dornogobi on mobility and flexibility in land use points to the importance of local customary arrangements governing access to land, as shown by some of the cases mentioned above. These arrangements always supplemented the administrative system of allocation, both in pre-Revolutionary Mongolia and under the central command system more recently. They even seem to have ensured success in cases where the administrative system alone might have prevented flexibility of movement at the risk of higher livestock mortality.

With privatisation and the move away from state allocation of resources, new kinds of formal support need to be found for land rights. Available evidence suggests they will be more likely to achieve the objective of sustainable but productive land management if they build on customary land rights that have evolved over many years to allocate pasture resources in a relatively sustainable manner.

Policy options and implications

These issues and research findings point to a number of important questions on which decisions will need to be made in Mongolia. Alternative policy choices are outlined here, together with their likely implications.

1. Land tenure policy

- (a) One option is to allow free access to land with administrative control 'policed' by existing local (district-level) environment officers.

Disputes over access to key resources can be expected to become more common and more difficult to settle at a local level (ie. between individual *suuri*) under a system with a much greater share of private livestock ownership than at present. An attempt to 'police' this by a purely administrative means of allocation and arbitration including, for example, powers to impose fines, could be expected to arouse resentment from herders.

Experience in a wide range of countries has shown that administrative land resource policing of this kind tends to be socially repressive and even environmentally damaging. It encourages behaviour that maximises individual benefits (eg. over-grazing of key resources) while avoiding social responsibility (eg. neither respecting customary rights, nor paying fines).

- (b) An alternative policy option is to formalise and strengthen existing customary land tenure arrangements by means of statutory legislation. The proven success of informal arrangements for allowing flexible access to grazing resources both on a regular basis and during times of hardship suggests that they should form the basis of a land tenure policy for Mongolia's extensive open pastures.

With an increase in private livestock ownership on public land however, this system will be stretched too far without being strengthened by a formal system of allocating land rights and providing ultimate recourse to arbitration through law courts where necessary.

Key questions that then arise in working out such a policy concern:

(i) whether land rights are allocated to individuals or to groups of herders. For the land tenure system to retain overall flexibility as a response to climatic/ ecological risk, group rights in land are preferable;

(ii) the size of group to which land rights are allocated. An important principle is that the more risky is the area in ecological terms, the larger should be the group in which land rights are vested. For most areas of Mongolia, evidence points to the existing brigades as being the most appropriate size of group. In the riskier Gobi zone, brigade territories are anyway larger. In recent administrative changes, many brigades are being consolidated from former *khesag* teams which further supports the view that the brigade is the most appropriate size of group for practical land management purposes.

(iii) in what form to allocate land rights eg. charge a grazing fee alone, or issue land leases which could include a charge for grazing rights. These alternative options are considered below.

- (c) Grazing fees could be levied on all herders within the *negdel*/limited company. This observes the logic of charging individuals for the use of common resources from which they benefit. It also has the advantage of providing the limited company with a source of revenue from which it can continue to fund capital investment in land (eg. fixed assets such as wells or stockyards and shelters). The major problem with a grazing fee system is that on its own it would provide no equitable means of allocating pasture resources at group (eg. brigade) level. It could be open to abuse by individuals who could afford to 'buy' the rights to the best land.
- (d) Leasing of grazing land to a group (eg. brigade) of herders is a policy option which can combine the advantages of security of tenure with flexibility in land allocation. The resource-tax principle of a grazing fee could be incorporated by charging a lease fee (cf. existing lease agreements covering *negdel* livestock). Questions which would need to be decided in working out a system of land leases include:
- (i) the length of the lease, and on whether it is of a fixed term or on a rolling basis. These determine the degree of security provided by the lease. Tenure security is desirable because it provides incentives to manage land conservatively. For example, a rolling 20-year lease with review at 5-year intervals would combine the objectives of security and flexibility;
 - (ii) what the lease should cover, eg. should it cover grazing land alone, or should it also include the use of any fixed assets on the land (shelters, wells); to be effective, leases would have to include such fixed assets;
 - (iii) other means to ensure flexibility within the lease system. For example, arrangements providing for reciprocal access to key resources between neighbouring *negdel*/limited companies or between neighbouring brigades could be authorised within the terms of the lease.

Because of their various advantages described above, the preferred option is a combination of (b) - statutory support for customary tenure arrangements - and (d) - leases to groups, for example brigades, with fees based on the relative value of the land. The state could draw up leases with *negdels* for their entire existing grazing territory, and the *negdel* would negotiate sub-leases with particular groups of herders at the brigade or similar level.

2. Mobility and flexibility

Most of the policy options for dealing with the issue of mobility and flexibility concern land tenure policy (above). Another, more technical option, is considered here:

- (a) Protect and upgrade certain 'key resource' areas in more productive ecological zones eg. steppe and forest/mountain steppe zones.

Research in hill farming in Scotland has shown that access to high quality pastures for limited periods of the year and for particular classes of animal (specifically ewes during the pre-mating season and during lactation) dramatically improves animal productivity. At the same time, the strategic control of access to key grazing resources within a more general open pasture landscape improves the sustainability of the system as a whole.

This research led to the successful development of the 'two-pasture' system in Scotland. The key resource areas within the system can be upgraded by fencing and re-seeding to further improve pasture quality and management control.

A study could be carried out of the technical and management feasibility of this option in the Mongolian context.

This kind of key resource needs to be clearly distinguished from those key resources that are used during difficult periods as a way of managing risk. A possible danger of the two-pasture system for Mongolia is that the high quality pastures might also be important in times of hardship, when the flexibility to allow access to a range of herding households would be important. The system would be unlikely to work in drier areas where flexibility of land tenure is most important.

3. Fodder constraints

The main options are:

- (a) Maintain the existing inter-province fodder distribution system at full economic cost, with particular priority (as at present) given to the Gobi zone which is too dry for the successful rainfed production of hay and fodder crops. This option is liable to prove too much of a burden on an already over-stretched national budget.
- (b) A scaled-down version of option (a) is to establish and support a national fodder reserve for emergency fodder distribution. Again, priority would need to be given to the Gobi zone. Fodder reserves would need to be maintained in at least the Gobi provinces. Costs of production, storage and distribution would be met either by central state out of general taxation, or shared in some way between the state, provinces, and the privatised *negdel*/limited companies.
- (c) Increase local private-sector fodder production capability in the Gobi zone itself by means of rainwater harvesting. This technical option has proved successful elsewhere for growing a wide range of crops including trees, vegetables and fodder crops. Compared with conventional irrigation schemes, this can be achieved at very much lower economic cost and higher environmental sustainability. A technical and social feasibility study for rainwater harvesting in the Gobi zone should be carried out.
- (d) Increase private-sector production of fodder for local use on arable land, in cases where this represents a more efficient allocation of resources than cereal production. A study should be carried out to provide an economic appraisal of the real relative production and distribution costs of wheat and fodder crops on existing arable land. This should also indicate how far a decentralised fodder production strategy of this kind would go in meeting existing fodder constraints by province.

Options (c) and (d) are preferred, perhaps with option (b) as a transition measure to be implemented while private-sector fodder production is being developed.

4. POVERTY RISK AND FOOD SECURITY

Introduction

Under the previous Mongolian economic system, there were some economic inequalities within and between *negdels*, but these were in general limited. The privatisation of animals and other *negdel* assets, and the liberalisation of livestock markets has the potential for productivity increases, but also carries the danger of rapidly increasing economic inequalities between households and between different parts of the country. This is important both because a free market system should not be allowed to create a large increase in poverty with all its social and economic dangers, but also because extreme economic inequality will hamper the achievement of the overall goal of better productivity.

Research by the PALD project this summer has provided information on this issue from Arhangai and Dornogobi provinces.

Poverty and risk: empirical data

PALD research concentrated on two main aspects of economic inequality: variations in household income and wealth, and variations in average *negdel* assets.

1. Household income and wealth

In the sample brigade in Arhangai province, the 88 households were ranked into 6 wealth categories, with considerable differences between richest and poorest groups. The number of private animals was considered by herders to be an important indicator of wealth: the richest households had 90-100 animals, the poorest 30 or fewer, with middle rank households owning 50-60 animals. Richer households had relatively more horses and cattle, and the richest households owned stallions, a large number of milk mares and ten or so dairy cattle. Poorer households had a high proportion of sheep and goats, and the poorest had at best a single dairy cow, no milk mares and only riding horses.

There was a similar wide range of wealth among households in the sample brigade in Dornogobi. The 75 households were ranked into six wealth classes with a wide range between richest and poorest: the richest had around 200 private animals, the poorest 30-60, and the middle group 70-100.

In both Arhangai and Dornogobi there were other indicators of wealth in addition to private animals. Rich households consumed more meat from their own flocks than poorer households. Material goods, especially saddles with silver decoration, silk *deel* costumes, and tent (*ger*) furniture, as well in some cases as bank savings, were all signs of wealth. In Dornogobi (but not in Arhangai) rich households had jewellery and other silver or gold valuables such as drinking bowls. A few households also had a motorbike or a Honda generator. In general, households in Dornogobi seemed better off, in terms of private animals and other wealth indicators, than households in Arhangai.

Differences in life cycle stage (whether households consisted of a young married couple with young children or no children, or older people with several children of working age, or of old people without young people to work for them) were one potential source of differences in wealth. For example, in the Dornogobi

sample, poor households were larger than rich households, but had fewer workers, leading to high ratios of dependents to workers (in some cases, these households had taken their children out of school to help with livestock work). In Dornogobi also, it was said that life was easier for rich households, because they "had friends in high places."

Detailed measures of household income and expenditure were made in a small sample of households to illustrate the range from rich to poor. In Arhangai, total household income (in cash and kind) of the richest household sampled was three times that of the poorest, and income from the *negdel* and from leased animals was four times. The richest household spent 60 percent of total income on food, while the poorest spent 82 percent on food. Incomes from private animals totalled 48 percent of the total for the richest and 67 for the poorest. Clothing was the main non-food item bought in all cases. In Dornogobi, total household income of the richest household sampled was twice that of the poorest, and income from the *negdel* was almost identical in all households sampled. Again, clothing was the next most important purchase after food.

2. *Negdel* assets

A further measure of economic inequality which will become important as *negdels* are transformed into limited companies is the total value of existing *negdel* assets. *Negdels* vary widely in this respect, both as a result of different ecological conditions (such as average rainfall or ability to grow fodder), and their past success in economic production.

In Arhangai the total assets of the 16 *negdels* in the province ranged from 7,600 - 49,500 tug/member: that is, the richest *negdel* had over six times more assets per member than the poorest. (Average household income per *negdel* varied less, with the richest having around 2.5 times that of the poorest.) In Dornogobi, *negdel* assets ranged from 7,400 - 17,300 tug/member, a much smaller range than in Arhangai. Variation in average household income between *negdels* was also smaller than in Arhangai.

In the most general terms, these PALD research data suggest that *negdels*, and individual households within *negdels*, start the move towards the market economy with significantly different levels of income, assets and production potential. These differences may be accentuated during the process of economic liberalisation.

3. Risk

The Mongolian livestock economy is inherently risky, and these risks are a major factor in creating and magnifying economic differences between *negdels* and between households. While a degree of economic inequality is an inescapable part of a free market economy, as entrepreneurs are rewarded for their risk taking, the existing wide economic variations between and within *negdels*, coupled with a continuing high level of risk, could create a situation where significant numbers of households are left without means of production, income or assets.

The main sources of risk are natural: unusual drought or snowfall, animal disease or predators. The state is able to control or remedy some of these risks, to some degree, but important dangers remain, as was illustrated during PALD project fieldwork in Arhangai, where one household lost a quarter of all its sheep in a single night to wolves. To these natural risks, present moves towards economic liberalisation will add the risk of sharp market price variations for basic goods produced and consumed in the countryside.

Such risks may be made more dangerous, not less, during the process of privatisation and economic liberalisation. Herders will no longer have subsidised state fodder supplies in case of feed shortage for their animals. Leasing more *negdel* animals to individuals, together with increased cost recovery, will reward individual entrepreneurship by wealthier herders, but increases the risk to poor herders, since they now have to carry risks previously carried by the *negdel* and by the state. Herders in the mountain/forest steppe zone, which has very harsh winters, are especially vulnerable in this respect.

PALD fieldwork suggests that herders are already responding to this increased risk by changing the composition of their herds towards a more diversified herd structure (more species, with a different age and sex composition). If true, this has important negative consequences for labour requirements, for land use patterns, and for livestock productivity. A likely result of such changes would be the further adoption of more risk-averse but lower productivity livestock production strategies by herders.

Conclusions and hypotheses for the future

The research summarised above suggests the following conclusions and hypotheses for future verification:

(i) *Existing economic inequalities.* Under the previous economic system, there were differences in average *negdel* incomes between ecological zones, between *negdels* within the same ecological zone, and between households within the same *negdel*. However these differences were not enormous. All households benefited from the safety net provided by *negdel* membership, which guaranteed their basic income and food security.

(ii) *Risk distribution before privatisation.* One reason for this lack of major economic differences was that the risks associated with animal production (especially drought, snow, disease, predators) were carried in large part by the *negdel*, which owned a majority of the animals and was therefore responsible in the case of their loss (with the State as the ultimate guarantor). The *negdel* also in some cases was able, with State support, to guarantee fodder supplies in major shortages. Because of this security, households could afford to take some risks in the search for high productivity on their own private animals.

(iii) *Risk distribution after privatisation.* Under a fully privatised system, all the risks previously carried by the *negdel* and the state are transferred to individual herders. As a consequence, economic differences between ecological zones, between *negdels* within the same ecological zone, and especially between households within the same *negdel*, could increase rapidly. Some people may accumulate very large herds, others may become very poor, some probably without animals (the latter people would probably become the hired workers of rich herders). This situation would have important consequences for livestock production and food security.

(iv) *Consequences for livestock productivity.* The productivity of large herds would probably rise, since their owners would have capital to invest and would be protected from the risk of loss of animals. The productivity of medium and small herds would probably remain stagnant or fall, since their owners would not have resources to invest, and would protect themselves against risk by diversifying the species composition of their herds (as has already started) and by following lower risk/lower productivity strategies (for example, milking dams less, accepting lower fertility rates, selling fewer animals). As a result, overall productivity of the

national herd would probably not increase rapidly, and might remain stagnant or even fall.

(v) *Consequences for food security.* In the event of a natural calamity, animal deaths in all categories would rise considerably. The incomes of medium and small herders would fall, and large herdowners would probably lay off their hired herders who would then have no employment and no income. Without the safety net of *negdel* employment and no system of social security, large numbers of people in the countryside could become hungry. If food prices rose at the same time (for example because of the same drought or snow), there would be a risk of a major food crisis.

Policy options and implications

The research conclusions and hypotheses summarised in the previous section point towards an important agenda of policy choices.

(i) *Overall policy objective.* The main policy objective in the herding sector might be to encourage a growth in livestock productivity (as discussed in chapter 2), accompanied by guarantees of food security and a safety net against destitution for herders. Incentives for greater productivity would be created through a significantly increased degree of private animal ownership. As a counterpart to this, the State would create mechanisms to handle a significant part of the risks associated with herding, through government and cooperative mechanisms, and new types of private sector institution.

(ii) *Maintenance of mixed private/collective herd ownership.* This overall policy objective could be met by encouraging a continued mix of private and cooperative livestock production. From this point of view, current plans for *negdel* privatisation (which envisage a greater share of private animals but the maintenance of a *negdel*/limited company-owned stock of animals to be herded by members under lease arrangements) are an appropriate policy. The main point during the transition period while alternative arrangements are worked out, should be to maintain a mixed private/collective economy, with risks and rewards shared equitably between the two.

(iii) *Safety-net function.* The safety-net function of *negdels* could be explicitly recognised and supported. Leases of livestock between *negdels* and individuals could explicitly state that, where animals are lost through no fault of the herder, the *negdel*/limited company has the responsibility to replace them, with government support until alternative arrangements such as private insurance are in force.

(iv) *Duration of leases.* The length of animal leases (now 5 or sometimes 2 years) could be reconsidered: longer leases may provide greater security of tenure for herders, and greater incentives to invest time and money in their management.

(v) *Risk of negdel failure.* As a limited company, the *negdel* itself can face economic failure through mismanagement or through natural calamity. *Negdels* in ecologically-difficult areas such as the Gobi or the mountain/forest steppe are at a greater risk than others. Some *negdels* start life as limited companies in a non-viable state and are likely to fail quickly. The consequences of *negdel* failure for its members would be disastrous. The government could underwrite this risk in the immediate future, in return for specific powers to oversee management and accounting procedures, and to intervene in case of flagrant mismanagement.

(vi) *New financial institutions.* Insurance, credit and banking will be important. In the medium term, private sector or mixed private/public sector institutions to handle individual and *negdel* risk, especially through insurance against climatic and other natural events could be developed. Research on how to do this could be a priority. The rapid development of *negdel* infrastructure (including water provision, animal shelters and fodder enterprises) and inputs, needed to facilitate private and *negdel*/limited company entrepreneurship, could be facilitated by the creation of a new commercial fund or Negdel Bank. New types of livestock credit, at commercial rates, could be made available to producers through such a bank. The State could be a partner in such a bank.

(vii) *Dividing up negdel assets.* Experience elsewhere shows that the process of sharing out *negdel* assets is a key moment when well-placed or more powerful people can get for themselves the most important assets: the best animals or machinery, key small enterprises, eventually the best pasture leases or agricultural land. This leads to very rapid concentration of wealth. Special attention might be given to the fairness of the process of sharing out *negdel* assets to prevent this.

(viii) *Direct State investment.* The State could continue to maintain a clear commitment towards control of infectious livestock diseases, and towards public sector investments in rural infrastructure such as roads and communications needed to reduce risk and facilitate entrepreneurship and the more even spread of market impact.

(ix) *Livestock taxation.* There could be a progressive system of taxation on private livestock in place of the present uniform rate: private herds up to a specified level could be exempt from state taxation, and additional animals could be taxed at an increasing rate according to their number above that.

(x) *Food security.* Food security is a key area for the future. The government could commission a study of how it could guarantee long-term food security in the rural sector, as the basis for deciding a detailed food security policy.

5. SEQUENCING ECONOMIC REFORMS

Introduction

The ultimate purpose of liberalisation in the livestock sector is to increase productivity by allowing free markets to set prices and economic input-output relationships. The government's plans at the moment in the cooperative sector are:

- (i) To set up an Agricultural Commodities Board with a staff of brokers who will act as market intermediaries between potential sellers (for the moment envisaged as *negdels*/limited companies acting on behalf of their members) and buyers; the market will set the price of these transactions. This new system has already been established and from 1992 will replace the state procurement order as the main mechanism of livestock marketing.
- (ii) To transfer livestock from *negdel* to private hands so that around 80 per cent of livestock are privately owned; the remainder will be left for the moment as the property of *negdels* which will be transformed into limited companies owned by their members; this is due to be completed during 1992.
- (iii) To phase out state/*negdel* full-cost subsidies in livestock input supplies (especially fodder, veterinary medicine and technical advice, transport of household goods for nomadic movement, additional labour at moments of peak demand) and to introduce user charges for these services. This should also take place during 1992.
- (iv) To value grazing land with a view to charging a grazing fee at some future time. No date has been set for the introduction of grazing fees, and no decisions have yet been taken about the future form of tenure of grazing land.

Constraints to livestock production

As previous chapters of this report have indicated, the present level of production under pastoral animal husbandry on Mongolia's rangelands is near the maximum given existing constraints. These include price disincentives resulting from the command system, but are not limited to that, nor are price disincentives necessarily the main constraint. More important are seasonal fodder and labour shortages, and the existing level of risk in animal production. Consumer goods are also in very short supply to *negdel* members and so there is little use for cash at local level.

For present privatisation plans to lead to more production, increased private ownership of animals combined with rising animal prices resulting from freer markets need to elicit more efficient use of inputs and greater productivity. There is a danger that present plans on their own will fail to achieve this. The problem is one of both the scale of reforms and their sequence.

Present liberalisation plans in the extensive livestock sector will remove price disincentives, and will allow producers greater decision making powers because most of the animals they are herding will be their own. However, present plans will do little to reduce other constraints.

As shown in chapter 4, risk to producers will increase with liberalisation since the burden of risk will be shifted onto them from the *negdel* and the state. The likely

consequence is that herders will adopt lower risk/lower productivity strategies. The fodder constraint will also increase, at least in the short and medium term, since government allocations of fodder will cease, and it will take some time for private fodder production to become well established. In many places, especially the Gobi and remote mountain areas, it may never be profitable to import fodder. Seasonal labour constraints will remain or even increase, because *negdels* will no longer provide supplementary labour at key moments, and it will take time for a labour market to develop. Similarly, other input constraints (for example, transport and veterinary medicine) may increase, at least in the immediate future, as *negdels* stop supplying these free and charge for them instead. Consumer goods are unlikely to become much more abundant in the immediate future.

Table 1. Constraints to pastoral livestock husbandry before and during liberalisation

<u>Constraint</u>	<u>Before privatisation</u>	<u>As a result of 1992/93 plans</u>
Animal prices	Fixed low prices discourage enterprise	Free market prices encourage enterprise
Fodder	Seasonal shortages; government allocates to most needy cases	Government allocation ceases; fodder costed at real market price; availability to most herders declines
Labour	Seasonal shortage; some subsidised allocation by <i>negdels</i>	<i>Negdel</i> allocation ceases; emergence of new cooperative forms; labour requirements of mixed herds increase; labour shortages persist
Risk	<i>Negdel</i> animals are a majority; risks on them carried by <i>negdel</i> and government; because of this security, herders can afford to take more risks on private animals	Private animals are the majority; risk shifted to herders; herders adopt risk-avoiding strategies (eg. mixed species herds) on all their animals
Other inputs	Transport, veterinary medicine etc. supplied free by <i>negdel</i> ; no credit available	Transport, veterinary medicine etc. costed at real market prices; availability to most herders declines; no credit available
Availability of consumer goods	Limited	Limited

Table 1 summarises these changes by comparing present constraints in livestock production with the situation likely to evolve under current privatisation plans.

The underlying premise of present policies is that in the long term, liberalisation will encourage free market solutions to these constraints. Private fodder enterprises and a labour market will be created, as will transport services; the private sector (perhaps with government participation) will develop risk management institutions such as insurance; consumer goods will become more plentiful.

In the short and medium term however, these changes will not take place without considerable research, planning and investment by government, and even then some changes may be extremely difficult to implement. The danger is that in the next five years, increased livestock productivity and hence increased livestock product supply may prove highly unresponsive to increased prices, owing to those constraints which will not be reduced in the immediate future: especially fodder, labour and risk. Under these circumstances, higher prices, operating on an inelastic supply of livestock and livestock products, will create strong inflationary pressures, but not necessarily greater production.

Sequencing reforms

The livestock sector reforms now planned by the government are a first step, but the priorities and above all the sequence of reforms should perhaps be reconsidered. Given the complex nature of the reforms to be undertaken, a transitional period of, say, five years from 1992-97 should be set aside for the full implementation of reforms, and the sequence of reforms should be carefully thought out. The following modified sequence of reforms in pastoral animal husbandry is proposed for this transition period:

(i) *Markets and prices.* The development of free market prices for animals and animal products, together with efficient marketing channels and infrastructure, are key early reforms to be accomplished in 1992. The activities of the Agricultural Commodities Board should be encouraged to develop rapidly. Within the context of the market system, the possibility of regional quotas for animal production should be investigated, in order to avoid creating excessive disparities between the north and centre of the country and the harsher conditions of the Gobi and some mountain regions.

(ii) *Privatising livestock ownership.* At present, 20-30 per cent of animals are privately owned. Current plans are that 80 per cent of livestock in pastoral animal husbandry will be privately owned by the end of 1992, with the remaining 20 per cent still owned by *negdels*. These *negdel* animals will all be leased out to herders. In order to maintain a minimal level of risk coverage by *negdels*, the leases on these animals should explicitly state that in case of blameless loss the *negdel* would replace the animals or re-negotiate production targets; the state should underwrite this risk to *negdels*. Procedures to verify the facts and causes of animal loss would need to be set up by *negdels*, based on existing traditional procedures, to avoid fraud. *Negdel* animals would not be fully privatised until reliable private sector risk management institutions had been developed by the end of the 5-year transitional period.

(iii) *Risk.* Even if, during the transition period, *negdels* and the state continue to underwrite the risks in pastoral animal husbandry on animals leased by *negdels* to herders, producers would nevertheless carry around 80 per cent of the total risk, since they will own 80 per cent of the animals. Early in the transition period,

private sector risk insurance institutions should be set up, with state and *negdel* participation, to protect producers against this risk. The move to full private animal ownership should not take place until most of producers' risks are adequately covered by such institutional arrangements.

(iv) *Fodder*. Fodder supplies are a key element in the success of privatisation. State and *negdel* fodder production enterprises should be privatised as a priority during 1992. This requires a rapid decision about private ownership or long (at least 20 year) leases of agricultural land currently producing cultivated fodder (but not haymaking land). Technological innovation in fodder growing is also urgent. Of the options considered in chapter 3, rainwater harvesting for fodder production in drier areas is especially promising and government should pursue this with donors as a matter of priority. The creation of a state fodder bank is also suggested as an interim measure. A continuing fodder subsidy may be necessary but could be phased out during the transition period as private fodder production increases.

(v) *Labour*. Labour constraints are perhaps the hardest to overcome. Herders are already cooperating at critical moments, and this type of cooperation is likely to increase spontaneously during the transition period. Given the potentially serious nature of the labour constraint, the kinds of incentives for low-level labour cooperation, labour-saving technologies, and the creation of more flexible labour markets discussed in chapter 2 should be implemented immediately.

(vi) *Other inputs*. Credit, discussed in chapter 4, is probably the most important additional input to be made available, perhaps through a new *negdel* bank. The development of new financial institutions of this sort will take time. The necessary research and experimentation should be initiated as soon as possible.

(vii) *Pasture land tenure*. Grazing fees will be adopted at some point during the transition period, although the details have not yet been decided. Chapter 3 proposed the eventual adoption of a more formal tenure system, using statutory law to reinforce key mechanisms in the customary situation as reflected in long-standing *negdel* practice.

For the immediate future the most important step is that long leases (perhaps rolling 20 or 30-year leases) should be concluded between government and *negdels*, with land valuation already underway being used to calculate the cost of the lease. This should be accomplished by the middle of the transition period (in 1994-95).

Existing administrative pasture allocation procedures within *negdels* should continue as one of the functions of the limited company during the transition period. The design of the pasture tenure system at levels below the *negdel* needs considerable additional research and discussion, especially to identify the composition and status of intermediate groupings between the *negdel* and individual households which might hold pasture leases, and to identify the options for different types of lease. The target should be to have done this work in time to make a decision about future pasture land tenure structures by the end of the transition period in 1997.

Conclusion

Successful privatisation of the pastoral livestock sector in Mongolia requires not only policy reforms in several areas not currently given priority by the government, but also that such reforms should take place in the right sequence.

The liberalisation of markets and prices is the key reform, and is well under way. The development of private ownership of livestock should for the moment be limited to not more than 80 per cent of animals, with *negdels* owning the remaining animals and leasing them to herders.

However, for liberalisation to have the desired effect of increasing livestock production, other key reforms must be adopted simultaneously with the privatisation of animals. These reforms are: risk insurance, the creation of efficient fodder production and marketing enterprises, the development of a labour market, and the development of credit and other input supplies. It is proposed that progress on individual reforms in this list, especially privatisation of animals, should be made dependent on progress in other key reforms, especially risk management and fodder supplies, in order to ensure that the right sequence is maintained.

The leasing by *negdels* of their traditional pastures from the state could be initiated early in the transition while sub-leases by the *negdel* to groups of herders should be targeted for later in the transition, following additional research and discussion.

6. REPORT OF POLICY WORKSHOP

A one-day policy workshop was hosted by the Supreme Council of Agricultural Cooperatives (SCAC) on 27 September, 1991, and chaired by Professor Tumurjav of the Council of Agricultural Science. The main part of the day comprised a presentation by Jeremy Swift and Robin Mearns of the Institute of Development Studies at the University of Sussex, UK, of the three PALD policy papers based on detailed fieldwork included as chapters 2-4 in this report, and detailed discussion of these by the workshop participants. The papers were prepared in both English and Mongolian; some participants had been circulated copies in advance.

Two other presentations were made during the workshop. Mr Lubsandorj of the Research Institute of Animal Husbandry presented the findings of a sample study of income and employment in the Mongolian herding economy carried out with funding from FAO. The study sample comprised 49 households in 12 *negdels* of the forest-steppe, steppe and Gobi zones. Data were presented on demography and household structure; labour demand and cooperation; and household expenditure patterns and income by source category, whether from private herds or *negdel* animals.

Peter Sloane of the Agricultural Management Project in the Ministry of Agriculture gave a presentation of the main challenges facing agricultural managers in Mongolia during the current period of major economic transition. The need to seek policy approaches relevant to Mongolian conditions in agriculture was stressed, including, for example, emphasis on risk minimisation rather than necessarily on the optimisation of resource use. Several different kinds of criteria are important in establishing appropriate agricultural management structures. While economic criteria are of central importance in the current transition, this should not mean losing sight of social criteria, particularly given Mongolia's proven successes in 'welfare net' provisions in recent decades.

What follows is a report of the views expressed by the workshop participants on the PALD policy issues and options included in this report.

Improving livestock productivity

The overall thrust of a 'sequenced' approach to improving individual animal productivity, rather than rapid increases in herd size, with relative emphasis at this stage on improvements in animal nutrition and management, met with general approval. An important question was whether the increasing costs of overcoming fodder constraints could be compensated by an overall increase in individual animal productivity. The potential for technical and management improvements in fodder provision (see chapter 3) pointed to these policy options as an area of priority. The Ministry of Agriculture participants in particular welcomed these suggestions and requested that attention in future PALD work also be paid to fodder conservation and processing in feed mills.

It was felt that improvements in genetic potential of the national herd could themselves be achieved by means of upgrading management, since there remains a great deal of scope for breed selection from within the existing gene pool. The proposal to bring the general level of herding management closer to the level of the best herders, by means of education and extension using the best herders as trainers, would also include improved breed selection.

Land tenure policy

Much of the discussion centred on land tenure policy, and in particular on appropriate ways to combine the advantages of land leases and grazing fees. Constructive comments were made on practical ways of translating a land lease system into practice. For example, the need for mobility and flexibility in pastoral land tenure means that in a drought period, some land which would normally be used might lie idle while a group of herders used key resources elsewhere. The same kind of flexibility would need to be reflected in the structure of grazing fees.

Also discussed was the desirability of preventing land degradation rather than restoring land which was already degraded. An important reason is that the costs of land reclamation following degradation are higher than those of policies to encourage conservative land management practices in the first place. A clear set of rights embodied in land leases would be most likely to provide such positive incentives, while strong regulatory controls on their own tend to encourage 'land mining' behaviour leading to overgrazing and land degradation.

Poverty and risk

The concept of safety nets captured the attention of several workshop participants, and met with support from both the Ministry of Agriculture and the Supreme Council of Agricultural Cooperatives. In particular, discussion focused on practical mechanisms to facilitate economic transition with some kind of safety net in place, since some herders' incomes will fall during the transition. The current proposals within the *negdels* to maintain a limited proportion of collective herds alongside private herds could go some way towards maintaining income security for poorer herders, although this would now need to be more related to individual productivity. The Supreme Council of Agricultural Cooperatives participants felt the policy suggestions put forward by the PALD project were of major significance for the future of the *negdel*/limited companies, and fitted in well with work already being carried out by the Supreme Council on rural banks and herd insurance.

Overall conclusions

Senior participants from the Ministry of Agriculture and the Supreme Council of Agricultural Cooperatives approved and welcomed the initial work of the PALD project. They considered that it provided a research framework and specific proposals within which to situate current policy decisions; the policy options as outlined complemented and extended their own thinking.

The principal recommendation of the workshop was that the PALD project, working with other institutions in Mongolian agriculture, should focus on translating the present policy guidelines into practical proposals for rapid implementation.

However, in parallel with this, participants agreed that the PALD project should continue detailed field research so as to provide a solid scientific basis for policy decisions. This research should maintain cooperation with the Institute of Agricultural Economics, and with the Research Institute of Animal Husbandry, including specialists in pasture ecology and fodder provision.

In his summing up, the workshop chairman said raising livestock productivity was the key issue. PALD research had shown that a balance between privatisation and continued *negdel* functions was important: neither on its own would suffice.

More policy workshops such as this should be held in the future. He ended by saying that participants valued the objective and realistic view now emerging of Mongolia's agricultural sector. This was the only sound basis on which to make future agricultural policy.

Annex: List of Workshop Participants

Prof. Tumurjav	Vice-President of Academy of Sciences and Chairman of Council of Agricultural Science
Mr Surenjargal	First Deputy Minister, Ministry of Agriculture (Economic Affairs)
Mr Bayarsaikhan	Deputy Minister, Ministry of Agriculture (Livestock)
Mr Tornon	Head of External Relations, Ministry of Agriculture
Mr Sukhbaatar	Chairman, Agricultural Commodities Board
Mr Baterdene	Deputy Chairman, Supreme Council of Agricultural Cooperatives
Mr Munkhbaatar	Secretary, Supreme Council of Agricultural Cooperatives
Mr Tumur	Head of External Relations, Supreme Council of Agricultural Cooperatives
Dr Purevtseren	Director, Institute of Land Management
Mr Minzhigdorj	Director, Research Institute of Animal Husbandry
Mr Erdenebaatar	Deputy Director, Research Institute of Animal Husbandry
Mr Lubsandorj	Senior Research Worker, Research Institute of Animal Husbandry
Mr Jijigsuren	Senior Research Worker, Research Institute of Animal Husbandry
Mr Dorligsuren	Director, Institute of Agricultural Economics
Mr Enkhamgalan	Scientific Secretary, Institute of Agricultural Economics
Mr Yasuaki Aihara	UNDP
Mr Peter Sloane	Senior Consultant, FAO Agricultural Management Project, Ministry of Agriculture
Mr Nick Guyer	FAO Agricultural Management Project, Ministry of Agriculture
Dr Jeremy Swift	Fellow, Institute of Development Studies, UK (PALD Project)
Mr Robin Mearns	Fellow, Institute of Development Studies, UK (PALD Project)

Mr Paul Tibbs

**Independent Consultant attached to Research
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FAO Agricultural Management Project team members

**PALD team members from Research Institute of Animal Husbandry (RIAH) and
Institute of Agricultural Economics (IAE):**

Mr Dorligin Shombodon	Senior Research Worker (Ag. Econ.), RIAH
Ms Gelegjamtsin Narangerel	Research Worker (Ag. Econ.), RIAH
Ms Urtnasangin Tuul	Research Worker (Zootech.), RIAH
Mr Ayurdsanii Enkhamgalan	Scientific Secretary (Ag. Econ.), IAE
Mr Buyanzin Myagmarzhav	Senior Research Worker (Ag. Econ.), IAE
Ms Amilin Bayanjargal	Research Worker, (Ag. Econ.), IAE
Mr Bekhbazarin Bekhsuren	Research Worker, (Ag. Econ.), IAE